WHAT IS CLAIMED IS:

1. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding; and

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding.

2. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding: and

means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step

15   size in the input compressed moving picture stream.

3. A compressed moving picture re-encoding apparatus that has

an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding: and

means for applying weighting, according to image characteristics, to the quantizer step size that is used in said re-encoding, and adjusting

15   that quantizer step size.

4.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for applying weighting, according to image characteristics, to the quantizer step size that is used in said re-encoding, and adjusting that quantizer step size: and

15   means for computing the ratio of the complexity measure in a

prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that

20   quantizer step size.

5.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding: and

6.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing the respective complexity measures in two or more kinds of prescribed periods or numbers of pictures, using either or both of the quantizer step size and the number of bits of said input

15   compressed moving picture stream;

means for outputting a prescribed complexity measure from said plurality of complexity measures;

means for computing the quantizer step size using said pre-set average bit rate and said output complexity measure;

20   means for computing the average of the respective quantizer step sizes every prescribed period or number of pictures, according to the encoding prediction mode of said input compressed moving picture stream, using the quantizer step size of said input compressed moving picture stream; and

25   means for computing an addition value for each encoding prediction mode, using said quantizer step size and said average quantizer step size, and computing an addition quantizer step size in which an addition value has been added to said input compressed moving picture stream quantizer step size;

30   wherein said addition quantizer step size is adjusted every prescribed period according to the difference (excess or deficiency) between the target number of bits and the actual number of bits, to give the quantizer step size that is used in re-encoding.

7. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-

encoding;

means for inputting said computed quantizer step size, and the
10 quantizer step size in said input compressed moving picture stream,
and outputting a quantizer step size that is used in actual re-encoding:

means for computing, by using a maximum bit rate among said set
bit rates and either or both of the quantizer step size and the number of
bits of said input compressed moving picture stream, the maximum bit
15 rate quantizer step size at said maximum bit rate; and

means for taking said maximum bit rate quantizer step size and
the quantizer step size that is used in said re-encoding as input, and
outputting the quantizer step size that is used in re-encoding.

8. A compressed moving picture re-encoding apparatus that has
an input compressed moving picture stream, generated by compression-
encoding of moving picture data, as an input signal, performs re-
encoding at a pre-set average bit rate and at a variable bit rate, and has
5 an output compressed moving picture stream whose bit rate has been
changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-
encoding;

means for inputting said computed quantizer step size, and the
10 quantizer step size in said input compressed moving picture stream,
and outputting a quantizer step size that is used in actual re-encoding:
and

9. A compressed moving picture re-encoding apparatus that has
an input compressed moving picture stream, generated by compression-
encoding of moving picture data, as an input signal, performs re-
encoding at a pre-set average bit rate and at a variable bit rate, and has
5 an output compressed moving picture stream whose bit rate has been

changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding.

10. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the quantizer step size in said input compressed moving picture stream,

and outputting a quantizer step size that is used in actual re-encoding:

means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream:

15   means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

20   means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed

25   period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding.

11.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing respective complexity measures in two or

more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in

15 either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set

20 average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; and

25 pictures from a picture re-enencoded at the start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image encoded within a frame are used as a plurality of pictures used as said prescribed period or number of pictures.

12. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5 an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10 quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing respective complexity measures in two or

more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in

15   either of said input compressed moving picture stream or said re-enencoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set

20   average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; and

25   pictures from a picture re-encoded at the start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image enencoded within a frame are used as a plurality of pictures used as said prescribed period or number of pictures.

13.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing respective complexity measures in two or

more kinds of prescribed predetermined periods or numbers of pictures,
using either or both of the quantizer step size and the number of bits in
15   either of said input compressed moving picture stream or said re-
encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a
plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set
20   average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed
period according to the difference between the target number of bits and
the actual number of bits, to give the quantizer step size that is used in
said re-encoding; and

25   a group of blocks into which a picture is divided is used for said
prescribed period for adjusting a base quantizer step size according to
excess or deficiency with respect to said target number of bits.

14.   A compressed moving picture re-encoding apparatus that has
an input compressed moving picture stream, generated by compression-
encoding of moving picture data, as an input signal, performs re-
encoding at a pre-set average bit rate and at a variable bit rate, and has
5   an output compressed moving picture stream whose bit rate has been
changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-
encoding;

means for inputting said computed quantizer step size, and the
10   quantizer step size in said input compressed moving picture stream,
and outputting a quantizer step size that is used in actual re-encoding:

means for selecting the larger quantizer step size from said
quantizer step size that is used in re-encoding, and said quantizer step
size in the input compressed moving picture stream:

15   means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

20   means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure; wherein said quantizer step size is adjusted every prescribed period according to the

25   difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; and a group of blocks into which a picture is divided is used for said prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect to said target number of bits.

15.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream:

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set average bit rate and said output complexity measure; wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding; wherein a group of blocks into which a picture is divided is used for said prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect to said target number of bits and pictures from a picture re-enencoded at the start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image encoded within a frame are used as a plurality of pictures used as said prescribed period or number of pictures.

16.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10 quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in

15 either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for computing said quantizer step size using said pre-set

20 average bit rate and said output complexity measure; wherein said quantizer step size is adjusted every prescribed period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding;

a group of blocks into which a picture is divided is used for said

25 prescribed period for adjusting a base quantizer step size according to excess or deficiency with respect to said target number of bits and

pictures from a picture re-encoded at the start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a plurality of pictures including one image

30 enencoded within a frame are used as a plurality of pictures used as said prescribed period or number of pictures.

17. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5 an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-

encoding;

means for inputting said computed quantizer step size, and the 10 quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in 15 either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for selecting a minimum complexity measure among said 20 plurality of complexity measures.

18.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has 5 an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the 10 quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream:

15 means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step

size in the input compressed moving picture stream:

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

means for selecting a minimum complexity measure among said plurality of complexity measures.

19. A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream:

means for selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream:

means for computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures,

20 using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream wherein pictures from a picture re-encoded at the start of re-encoding to a picture immediately preceding that for which re-encoding is currently being performed, or a

25 plurality of pictures including one image encoded within a frame are used as a plurality of pictures used as said prescribed period or number of pictures;

    means for outputting a prescribed complexity measure from a plurality of said complexity measures; and

30   means for selecting a minimum complexity measure among said plurality of complexity measures.

    20. The compressed moving picture re-encoding apparatus according to claim 9, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5 measure computation, and adjusting that quantizer step size.

    21. The compressed moving picture re-encoding apparatus according to claim 10, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5 measure computation, and adjusting that quantizer step size.

    22. The compressed moving picture re-encoding apparatus according to claim 11, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5 measure computation, and adjusting that quantizer step size.

23.   The compressed moving picture re-encoding apparatus according to claim 12, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

24.   The compressed moving picture re-encoding apparatus according to claim 13, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

25.   The compressed moving picture re-encoding apparatus according to claim 14, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

26.   The compressed moving picture re-encoding apparatus according to claim 15, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

27.   The compressed moving picture re-encoding apparatus according to claim 16, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

28.   The compressed moving picture re-encoding apparatus according to claim 17, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

29.   The compressed moving picture re-encoding apparatus according to claim 18, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

30.   The compressed moving picture re-encoding apparatus according to claim 19, further comprising means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed moving picture stream used in said complexity

5   measure computation, and adjusting that quantizer step size.

31.   The compressed moving picture re-encoding apparatus according to claim 9 , further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

5   moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the

10   quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

32. The compressed moving picture re-encoding apparatus according to claim 10, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed
5 moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the
10 quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

33. The compressed moving picture re-encoding apparatus according to claim 11, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed
5 moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the
10 quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

34. The compressed moving picture re-encoding apparatus according to claim 12, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the

10 quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

35. The compressed moving picture re-encoding apparatus according to claim 13, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

5 moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the

10 quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

36. The compressed moving picture re-encoding apparatus according to claim 14, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

5 moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity

measure of the object of re-encoding, using either or both of the
10 quantizer step size and the number of bits of said input compressed
moving picture stream, performing weighting of said quantizer step size,
and adjusting that quantizer step size.

37. The compressed moving picture re-encoding apparatus
according to claim 15, further comprising;

means for applying weighting, according to the image
characteristics, to the quantizer step size of said input compressed
5 moving picture stream used in said complexity measure computation,
and adjusting that quantizer step size and

means for computing the ratio of the respective complexity
measures in a prescribed period or number of pictures to the complexity
measure of the object of re-encoding, using either or both of the
10 quantizer step size and the number of bits of said input compressed
moving picture stream, performing weighting of said quantizer step size,
and adjusting that quantizer step size.

38. The compressed moving picture re-encoding apparatus
according to claim 16, further comprising;

means for applying weighting, according to the image
characteristics, to the quantizer step size of said input compressed
5 moving picture stream used in said complexity measure computation,
and adjusting that quantizer step size and

means for computing the ratio of the respective complexity
measures in a prescribed period or number of pictures to the complexity
measure of the object of re-encoding, using either or both of the
10 quantizer step size and the number of bits of said input compressed
moving picture stream, performing weighting of said quantizer step size,
and adjusting that quantizer step size.

39.   The compressed moving picture re-encoding apparatus according to claim 17, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

5   moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the

10   quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

40.   The compressed moving picture re-encoding apparatus according to claim 18, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

5   moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the

10   quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

41.   The compressed moving picture re-encoding apparatus according to claim 19, further comprising;

means for applying weighting, according to the image characteristics, to the quantizer step size of said input compressed

5   moving picture stream used in said complexity measure computation, and adjusting that quantizer step size and

means for computing the ratio of the respective complexity measures in a prescribed period or number of pictures to the complexity measure of the object of re-encoding, using either or both of the

10   quantizer step size and the number of bits of said input compressed moving picture stream, performing weighting of said quantizer step size, and adjusting that quantizer step size.

42.   The compressed moving picture re-encoding apparatus according to claim 1, wherein a threshold setting is made for a prescribed plurality of quantizer step sizes with respect to said addition quantizer step size.

43.   A compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5   an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

means for computing a quantizer step size that is used in said re-encoding;

means for inputting said computed quantizer step size, and the

10   quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding:

means for computing, by using a maximum bit rate among said set bit rates and either or both of the quantizer step size and the number of bits of said input compressed moving picture stream, the maximum bit

15   rate quantizer step size at said maximum bit rate; and

means for taking said maximum bit rate quantizer step size and

the quantizer step size that is used in said re-encoding as input, and outputting the quantizer step size that is used in re-encoding:

said means for computing the maximum bit rate quantizer step size is rate control that satisfies the ratio of said input bit stream bit rate to said maximum bit rate with respect to the number of bits in the prescribed period or number of pictures of said input compressed moving picture stream.

44. The compressed moving picture re-encoding apparatus according to claim 1, wherein a minimum value is set for said quantizer step size that is used in re-encoding.

45. A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

a step of computing a quantizer step size that is used in said re-encoding; and

a step of inputting said computed quantizer step size, and the quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding.

46. A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

a step of computing a quantizer step size that is used in said re-encoding;

a step of inputting said computed quantizer step size, and the
10 quantizer step size in said input compressed moving picture stream,
and outputting a quantizer step size that is used in actual re-encoding

a step of selecting the larger quantizer step size from said
quantizer step size that is used in re-encoding, and said quantizer step
size in the input compressed moving picture stream.

47. A compressed moving picture re-encoding method that has an
input compressed moving picture stream, generated by compression-
encoding of moving picture data, as an input signal, performs re-
encoding at a pre-set average bit rate and at a variable bit rate, and has
5 an output compressed moving picture stream whose bit rate has been
changed as an output signal, comprising:

a step of computing a quantizer step size that is used in said re-
encoding;

a step of inputting said computed quantizer step size, and the
10 quantizer step size in said input compressed moving picture stream,
and outputting a quantizer step size that is used in actual re-encoding:

a step of computing respective complexity measures in two or more
kinds of prescribed predetermined periods or numbers of pictures, using
either or both of the quantizer step size and the number of bits in either
15 of said input compressed moving picture stream or said re-encoded
compressed moving picture stream;

a step of outputting a prescribed complexity measure from a
plurality of said complexity measures; and

a step of computing said quantizer step size using said pre-set
20 average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed

period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in said re-encoding.

48. A compressed moving picture re-encoding method that has an input compressed moving picture stream, generated by compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has

5 an output compressed moving picture stream whose bit rate has been changed as an output signal, comprising:

a step of computing a quantizer step size that is used in said re-encoding;

a step of inputting said computed quantizer step size, and the

10 quantizer step size in said input compressed moving picture stream, and outputting a quantizer step size that is used in actual re-encoding;

a step of selecting the larger quantizer step size from said quantizer step size that is used in re-encoding, and said quantizer step size in the input compressed moving picture stream

15 a step of computing respective complexity measures in two or more kinds of prescribed predetermined periods or numbers of pictures, using either or both of the quantizer step size and the number of bits in either of said input compressed moving picture stream or said re-encoded compressed moving picture stream;

20 a step of outputting a prescribed complexity measure from a plurality of said complexity measures; and

a step of computing said quantizer step size using said pre-set average bit rate and said output complexity measure;

wherein said quantizer step size is adjusted every prescribed

25 period according to the difference between the target number of bits and the actual number of bits, to give the quantizer step size that is used in

said re-encoding.